

REMARKS

Claims 1-9, 17 and 18 are cancelled from the application; claims 10-16 and 19-37 are pending in the application.

The Examiner indicates that the claims of the present application conflict with claims 1-37 of application no. 09/928,172. Applicant respectfully disagrees. Applicant discussed this rejection with Examiner Coleman in a telephone interview on 9/2/03. During the telephone interview, the undersigned explained that claims 1-37 were cancelled from application no. 09/928,172 and replaced with new claims directed toward physical vapor deposition target constructions. The Examiner agreed that the cancellation of claims 1-37 from 09/928,172 renders moot the rejection of the present claims for conflict with claims 1-37 of 09/928,172. The Examiner was very helpful during the telephone interview, and the undersigned thanks the Examiner for the courtesy and helpfulness that the Examiner extended in the telephone interview.

In rejecting the claims of the present application as being in conflict with claims of 09/928,172, the Examiner appears to indicate that there may be some impropriety by referring to application no. 09/928,172 as a divisional of the present U.S. application no. 09/488,973 even though the U.S. Patent Office provided no restriction in 09/488,973. Applicant respectfully submits that a divisional application can be filed voluntarily by the Applicant, as occurred in the present case.

The Examiner requests correction to an Oath and Declaration at section 3 of the Office Action mailed June 24, 2003. Such request for correction to the Oath and Declaration appears to be springing from the Examiner's contention that it was improper to file application no. 09/928,172 as a divisional of application 09/488,973. However, as

discussed above, 09/928,172 could properly be filed as a divisional of 09/488,973. Applicant therefore believes that the Examiner's request for correction to the Oath & Declaration is mistaken, and requests withdrawal of such request in the Examiner's next action.

Claims 10-16 and 19-37 stand rejected as being unpatentable over Gilman. Applicant respectfully requests reconsideration of such rejections. The claims of the present application are believed allowable for at least the reason that such claims recite methods in which aluminum-containing backing plates are diffusion-bonded to aluminum-containing targets while maintaining a size of a predominate portion of developed grains within the diffusion-bonded materials to a maximum dimension of less than 100 microns.

The Examiner recognizes that Gilman fails to teach that a predominant portion of developed grains within a diffusion bonded aluminum-containing backing plate/aluminum-containing target construction have a maximum dimension of less than 100 microns. However, the Examiner contends that such is an obvious optimization of the methods taught in Gilman. Applicant respectfully disagrees. As discussed in Applicant's specification at, for example, page 6, lines 1-12, it is generally desired to form aluminum-containing targets having small aluminum grains as the smaller grains can improve sputtering processes, and the invention encompasses methodology for maintaining a small grain size within diffusion-bonded aluminum-containing targets. Accordingly, the specification indicates that there is a significant advantage to forming aluminum-containing targets having small grains therein (i.e., having a predominate portion of the grains with a crystalline grain size of less than 100 microns). There is no suggestion within Gilman that the procedures described therein will lead to aluminum-comprising targets/aluminum-

comprising backing plate constructions in which a predominate portion of the grains within the aluminum-comprising target will have a size of less than 100 microns. The Examiner's contention that it would be obvious to attempt to determine optimum parameters for utilizing the Gilman method to form aluminum-comprising target/aluminum-comprising backing plate constructions having a predominate portion of the grains within the aluminum-comprising target with a grain size of less than 100 microns is erroneous for at least the reason that there is no suggestion within Gilman that any set of parameters can be utilized with the method taught therein to form an aluminum-comprising target construction having a predominate portion of the maximum grain size less than 100 microns. Accordingly, there is no reason to expect that any parameters are available which can be utilized in conjunction with the Gilman process to form aluminum-comprising targets bonded to aluminum-comprising backing plates, and yet retaining Applicant's claimed predominate portion of the aluminum-comprising containing grains with a grain size of less than 100 microns in maximum dimension. For at least this reason, Applicant's recited process cannot be considered to be simply routine optimization of the Gilman process. Specifically, it cannot be considered to be routine optimization of the Gilman process to produce a grain size that Gilman doesn't even suggest is possible with the process of his invention.

For the above-discussed reasons, claims 10-16 and 19-29 are not obvious over Gilman. Applicant therefore requests that the obviousness rejection of claims 10-16 and 19-37 relative to Gilman be withdrawn, and that claims 10-16 and 19-37 be allowed.

Respectfully submitted,

Dated: 9/2/03

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